

NASA TECH BRIEF



NASA Tech Briefs are issued to summarize specific innovations derived from the U.S. space program, to encourage their commercial application. Copies are available to the public at 15 cents each from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151.

Cold Trap Increases Sensitivity of Gas Chromatograph

The problem:

To determine trace amounts (as low as 0.1 ppm) of oxygen and argon in helium by gas chromatography.

The solution:

Use a cold trap to concentrate the oxygen and argon before these impurities are introduced into the chromatograph.

How it's done:

A definite volume of the impure helium gas to be analyzed is passed into a trap which is cooled on the outside by liquid nitrogen to condense the oxygen and argon. The released (uncondensed) helium gas is valved to a meter and discharged from the system. After the measured volume of helium has passed, the trap is heated to vaporize the oxygen and argon and allow the resultant gases to pass into the chromatograph for analysis in the conventional manner.

Note:

Inquiries concerning this invention may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B66-10517

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

Source: G. G. Garrard and R. D. Wesley
of North American Aviation, Inc.
under contract to
Marshall Space Flight Center

(M-FS-1617)

Category 03